Implementation of an In-house
EMT-Basic Review Program

R506 Executive Planning

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ABSTRACT

This research paper documents the study; development and eventual implementation of a monthly EMT Review Program that was designed to serve two medium size functionally consolidated fire departments. The problem was that the fire department monthly EMT training had been discontinued. The purpose of this research paper was to plan, develop and implement a "new" monthly EMT training program that could be administered in-house by fire department personnel. Utilizing the evaluative method, this paper sought to answer three research questions.

1. Can a Basic Emergency Medical Technician (EMT) review program be successfully integrated into a monthly in-house on-duty-training program?
2. Will this EMT Review training program prepare fire department personnel with the knowledge and skills they need to perform and maintain their certification.
3. Can the proposed training program be effectively administered and evaluated to ensure a proficiency level that will provide expected results.

The procedures adhered to the analysis-planning model taught in the executive planning course to include a survey questionnaire and the evaluative method of research. An analysis of past training methods and anticipated future requirements provided the summarized results. On-duty and in-house EMT review and skill training will continue to play an important role in the maintenance of fire firefighter medical skills. The recommendation proposed in this paper was to fund and support the monthly EMT Review program as outlined in this research. In addition, to maintain an on-going monthly and annual reevaluation of this EMT in-house training program.

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EMERGENCY MEDICAL TECH.

INTRODUCTION:

Drive through any community in the nation today and chances are you'll be only minutes away from trained emergency medical services ready and waiting to provide medical attention should the need arise. That assistance might be provided through a paid fire department, a local volunteer service or a private sector ambulance provider. Statistics reveal that in most urban areas emergency medical help will be at least at the emergency medical technician level (EMT-B). While the level of medical training and certification is typically higher in larger communities, there is growing awareness of the importance of paramedic care. The expansion of established emergency services and the desire for EMT personnel to up-grade their skills have added to the general push for agencies to up-grade their services.

Increasingly, regularly televised and popular programs such as *ER, Paramedics, Trauma; Life and Death in the ER* and a variety of real-life based "*docudrama*" programming has served to stimulate the public interest in having paramedic level service. High-tech equipment and dramatically performed rescue skills shown up close with gritty realism have raised expectations of what the public demands of emergency organizations. Medical procedures that had in the past been reserved for physicians, surgeons and nurses are now routinely performed in the pre-hospital setting under standing orders. The tax-paying public expects that EMS providers arrive quickly, stabilize patients dramatically and of coarse, transport in a flash of ambulance lights, sirens or rotor wash.

There is certainly nothing wrong with all of that, in fact, that's the way most fire service professionals always thought it should be. Since most fire organizations who provide EMS do it seventy to eighty percent of the time the trucks run out the door, no one should be surprised that providing even routine pre-hospital medical assistance has become the common *Hollywood* spectacle it is today.

The higher the level of medical treatment administered the more likely the care will produce positive results. No one argues the benefit of having bigger, better and smarter services, the question that is causing EMS services to reconsider is, how much bigger, better and smarter can we afford to become and still remain financial responsible. In generally, emergency services organizations, particularly fire departments, recognize that the public expects their organization to provide the highest level of EMS service. To that, add the fact that most people have no idea what the basic costs of EMS services are. To the degree that they are able, state, county and regional emergency services agencies have funded rural areas whom may not be able to initially train and eventually support paramedic level service. EMT curriculum standardization, has helped lend credibility to pre-hospital care training programs and made the issue of crossing jurisdictional boundaries less of a liability for medical control base stations. The National Registry of Emergency Medical Technicians (NREMT) has been one of the driving forces behind national standardization and is gaining clout both academically and politically. None-the-less, there are since several states that do not recognize NREMT testing and certification.

The majority of EMS pre-hospital care providers in the United States are certified at the EMT-Basic level. In fact, nationally the ratio of paramedics to EMT's is about 5:1

(Includes all emergency services, fire, private sector, institutional and governmental). Ideally paramedics were trained to work in pairs/partners in the field model of the military corpsman or “combat medic”. However, the typical “team” concept of emergency responders today is that of one paramedic, supported by one, two or in some cases three EMT’s. Although some fire and private sector organizations maintain the “team” concept of two paramedics, most now strive to maximize their staffing of personnel by using the one paramedic with supporting EMT’s configuration.

One of the significant expenditures borne by emergency organizations is the cost of continued education for their EMS providers. In particular, the large numbers challenge employer’s ability to fund training and provide other state or regional requirements for recertification training courses and practical skills testing. While the community colleges provided recertification refresher courses and limited continued education programs the ultimate responsibility rests with the employers and the individual providers

It should be no surprise then, that most emergency medical response organizations, fire departments in particular, must allocate a large amount of their training budgets to keep and maintain personnel EMS certification. In the state of Arizona most career fire departments either provide continuing education training in-house or depend on the Arizona Department of Health Services (AzDHS) to fund regional educational conferences for both EMT- Basics and paramedic (ACLS) personnel. Regional base station hospitals, through state mandate, offer limited continuing education training. As a rule the bulk of hospital sponsored training is at the

paramedic level. The limited funding available at the state/county level typically goes to fund advanced training courses and skills labs in urban areas.

After December 31, 1998 the Arizona Department of Health Services (AzDHS) amended their recertification (Arizona Revised Statues) policies and held that EMS provider agencies could only issue in-house continuing education recertification credits if they complied with strict standards that few organizations could meet. This ruling change has been generally regarded as unnecessary and suspiciously protects the community colleges growing market for EMS continuing education dollars. While most of the ACLS recertification training was being done outside of the fire department, this new ruling has had a significant impact on Basic EMT in-house recertification training programs. Certainly nobody was surprised that the state elected to line up behind established and accredited learning institutions as opposed to dealing individually with emergency pre-hospital care agencies. Not only can the state wield a bigger "hammer" when dealing with other state funded and governmentally regulated institutions like community colleges, but also there are fewer of them to have to deal with.

Applying the executive planning analysis model to this training problem seemed a logical progression of problem identification and research. Outlined below are the problem and purpose statements that have driven this research paper.

The Problem: The joint fire department in-house EMT review training was obsolete and had been discontinued from the monthly in-house training packet.

The Purpose: To research, plan, analyze, develop and implement an EMT-Basic Review training program to be administered in-house by on-duty department personnel as part regular monthly training.

Details of this program's procedures shall be specifically addressed in the Procedures section of this research paper. This paper will attempt through the evaluative research method; an educational needs questionnaire, analysis and review of past training procedures to answer the following three research questions:

Research Questions

1. Can a Basic Emergency Medical Technician (EMT) review program be successfully integrated into a monthly in-house, on-duty-training program? (Analysis, Acquisition, Implementation & Evaluation)
2. Will this EMT Review training program prepare fire department personnel with the knowledge and skills they need to perform and maintain their state/national certification. (Work Breakdown Structure Resource Requirements)
3. Can the proposed training program be effectively administered and evaluated to ensure a proficiency level that will provide expected results now and in the future.

Each of the three stated research questions shall be addressed and reviewed separately in the Results section of this research paper. The planning methods of problem solving taught, demonstrated and utilized in the Nation Fire Academy class R506: Executive Planning course shall be used as a guideline throughout this research paper.

BACKGROUND AND SIGNIFICANCE:

Central Yavapai Fire District and the City of Prescott, Arizona fire department entered into a consolidation effort three years ago (1996). After three years of careful analysis, research, discussion and studies they to answer the question: Will *the residents who are served by these two fire departments benefit from the sharing of*

equipment, resources and personnel? The answer was YES, and the results in the last two years of providing services seem to support the hypnosis. This has not only been reflected in the savings to tax payers, but in the progress that has been made in the delivery of fire protection, EMS and community risk management services. Each department employs approximately one hundred members and jointly staff ten fire stations in the north central region of Arizona (see Appendix C CYFD Demographics) The elevation ranges from 4800 to 6300 feet with a population approaching 39,000 people distributed over approximately 150 square miles. During the 1997-1998 fiscal year Central Yavapai Fire District (CYFD) respond to 4050 alarms in a predominately rural environment with light industry and no significant Haz Mat high-risk areas.

Three of the essential components of this functional consolidation effort are the shared programs that include. First; A regional communication (dispatch) center. Second; A Joint Fleet Maintenance agreement. Third; One shared chief training officer. It is in this third area of *joint training* where the idea for program improvement and questions of adequate training first came to light. The absence of an EMT training program prompted this research paper. The approach of this researcher was to identify the problem and utilize the criteria outlined in the EFOP executive planning program to recommend an answer or reasonable alternative.

At present, both departments are utilizing a monthly training packet prepared by the joint training officer. This includes a variety of lessons related to fire operations, safety, infectious control updates and a calendar of events. Training packets are distributed to the company officers (Captains) that supervise each of ten different fire stations. The responsibility for administering the lessons and supervising the practical

exercises is delegated to the station captains. In addition, the captains documented the training hours into a training data bank that credits each individual firefighter with the specific lessons, training or skills performed.

When the U.S. Department of Transportation issued the 1994 revised EMT-B national standard curriculum, the EMS curriculum (lessons) being distributed and taught throughout both department became obsolete. While both departments staff members recognized this as a problem, it was a not given a high priority at the time. Not because it was considered unimportant, but because maintaining paramedic certifications and continuing education hours were considered the number one priority.

A program had to be developed and a system put in place to restore the EMT monthly training for both departments. To this end, this research project has chronicled the research, development and implementation of an EMT Review program used by both participating departments (Central Yavapai Fire District and the city of Prescott Fire Department).

LITERATURE REVIEW

You can't help but notice that most progressive fire departments today will go out of their way to impress you with how they employ the latest state-of-the-art EMS and fire equipment. They have implemented the latest and greatest new-age management philosophy and forward-looking EMS chiefs are researching the benefits of adding Expanded-Scope Practice (ESP) to their department's armada of medical services. In his article for EMS Magazine, *EMS at the Crossroads of Care*, Dennis M. Meade writes, "…some would have us believe that expanding our practice (EMS) will be relatively simple, I suspect it will encompass far more than just taking one or two in-service

classes, revising the protocols and adding a few new techniques to the acts (skills) allowed" (Meade, 1998, p. 2). Indeed, while some fire departments believe that they are obligated to go *the next step* to give taxpayers what they *want*, are they really giving people what they *need*? In spite of the perception that *bigger and better,* is that what people must have, is it realistic or even reasonable for fire departments to provide? The truth is, most fire departments are now administering EMS service as it was meant to be provided. EMT-Basic service has evolved from a modest beginning in the mid nineteen sixties when Meade explains, "the sole focus of EMS service was to load and go and assessments of the patient's condition where virtually nonexistent……few if any interventions were attempted on the scene" (Meade, 1998, p. 3).

Today in most urban areas of this country there are so many paramedics, first responders and Basic EMT's speeding to medical emergencies that, "you couldn't die if you wanted to!" An exaggeration perhaps, but the fact remains that unless you find yourself somewhere between Lordsberg, New Mexico and Ajo, Arizona someone's going to come to your aid. More likely than not, that someone will be carrying the newest Physio Control Lifepack 12 cardiac monitor defibrillator and be connected via satellite to a new regional trauma center four hundred miles away for on-line medical control and specialist consultation.

Not that anyone's complaining, but the problem for many departments is that fire chiefs, EMS coordinators and city/town council members fixate on the "pentium class" service and often neglect or just forget the importance of the lesser emergency service dutifully provided by the Basic EMT's.

Heather Davis explains in her article for EMS Magazine, *EMS Education: Developing a New Philosophy of Practice*, that "for EMT students, much of the learning taking place is rudimentary.….Information is provided to the student repetitively for the purpose of recall some time in the future…by the end of the course, when the student has successfully demonstrated the ability to remember requested information on demand, he is sent into the field in the hope that he will remember that same information when needed" (Davis, 1998, p. 1). Ms Davis isn't implying that EMT knowledge or skills are unimportant or that they don't challenge bright and creative people. To the contrary, her research compares the manner in which EMT's are trained to the more participatory and stimulating methods employed to teach paramedics. She concludes, "Learning means that a person has been exposed to the material, can or could recall the data, and understand the idea. Knowing something, on the other hand, is the ability to process information, apply it to different situations, and consider its meaning in contrast to other concepts" (Davis, 1998. P.2).

How does this apply to the problem stated in this research project? Well, it offers evidences that while we expect the training of EMT's and paramedic personnel will require effort, time, money and applied academia, one is on a more sophisticated level than the other. Does this mean that all EMS educators should "dumb-down" EMT training, absolutely not? Should we approach EMT recertification training any differently that paramedic training? Only from the standpoint that we appreciate the importance of good judgement and strong patient assessment decision-making skills. In his book, *Leadership*, James MacGregor Burns writes,"decision makers often respond to new problems and crises by using old techniques" (1993, p. 409). The problems facing this

research aren't necessarily new, yet they require a departure from the old solutions or techniques that often minimized EMT related issues and placed them behind paramedic problems. Not wanting to implement a training program that was approved based on 'everyone going along with an idea because everyone else did" (The Abilene Paradox, Jerry B. Harvey Ph.D. 1996) Educational needs were explored through a questionnaire. The results are addressed and discussed in the Results section of this paper.

One of the components of the in-house EMT Review Program proposed in this research paper is the distribution of "Monthly Lessons" that will provide the specific topics (see Appendix B EMT Lessons) and include either tests or practical exercise. The EMT Review Lessons adheres to the reference text, Brady publication, *Emergency Pre-hospital Care*.

PROCEDURES

The procedures employed in this research project reflect the executive planning model taught through the Executive Fire Officer Program course, R506 Executive Planning at the National Fire Academy. The EMT training program was actually implemented beginning in March of 1999 and is an eighteen month program.

Needs Analysis:

The exploration of a need analysis was best addresses through the development of a questionnaire that provided not only information and data related to who needed EMT training, but also what specific topics should be included. The questionnaire developed for this research project was a dual use instrument that was designed, distributed and administered to gather EMT and ACLS needs information (see appendix A Survey Questionnaire). While the general need for an EMT review program had

already been established, the questionnaire was instrumental in defining the specific curriculum ranges that would benefit the greatest number of providers.

By establishing a listing of all tasks identified with the project in a *work breakdown structure,* major components could be illustrated in an outline that provides a "quick-look" method for measuring progress, timelines and results. In an oversimplified outline form, this instrument provides an adaptable measuring device and overview of any project, simple or complex.

Work Breakdown Structure

1.0 Identify Level of Training
- 1.1 EMT
- 1.2 ACLS
- 1.3 Intermediate

2.0 Schedule Timeframe for Program Implementation
- 2.1 Eighteen Months
- 2.2 Monthly Installments
- 2.3 Recommended training hours

3.0 Evaluate Survey Results
- 3.1 Determine relevance to program
- 3.2 Re-evaluate after one year
  - 3.2.1 Modify survey as needed
  - 3.2.2 Select target groups

4.0 Funding Mechanism
- 4.1 AzDHS reimbursements
  - 4.1.1 Provider Grant Program
  - 4.1.2 NAEMS Funding

5.0 Evaluation of Training Program
- 5.1 Review recertification results
- 5.2 Apply to AzDHS for accreditation as training facility

Resource Requirements

The purpose of the resource requirements matrix is to identify in a graphic way, the major resources needed to complete the program or project. In the graphic representation included in this research the major program components are illustrated as abbreviated sub-parts. Although the program had limited direct involvement in the form of man-hours, the resource requirement chart helped plot progress throughout the planning process. This chart offered project details and day-to-day tracking

Resource Requirements (Table)

Resource Requirements						
	Work Breakdown Structure	Human	Facility	Equip.	Materials	Misc.
1	I.D. Level Training	24 hrs			Cert. Lists	Personnel
2	Timeline for Implementation	18 months		Station		
3	Evaluate Survey Results	12 hours	Office		Survey	Computer
4	Funding Mechanism	8 hours			Text Book	
5	Training Program Evaluation	Unknown	Admin.			Computer

RESULTS

The conclusions reached from research data survey results provided answers for the three stated research questions. The results provided formal validation for the recommendations expressed the Recommendation section of this paper.

Research Questions:

1. Can a Basic Emergency Medical Technician (EMT) review program be successfully integrated into a monthly in-house on-duty-training program?

Answer: The fact that both departments had always administered effective, organized and productive monthly training programs provided a platform for the continuation of an

up-graded, revised and more adaptable EMT Review Program. This new program has enjoyed broad support and by and large is a program that most firefighters enjoy.

2. Will this training program adequately prepare fire department personnel with the knowledge and skills they need to perform and maintain their state/national EMT certification.

Answer: Care was taken to follow the 1994 revised US Department of Transportation EMT curriculum as presented in the Brady publication, *Emergency Pre-hospital Care*, *5th Edition*. Not only can this program be updated and easily revised, it also complies with all AzDHS requirements. Finally, the answer to this question may best be answered through the analysis of successful certification testing over the next two to three years. The program accommodates and requires data collection.

3. Can the proposed training program be effectively administered and evaluated to ensure a proficiency level that will provide expected results now and in the future.

Answer: All indications are that the EMT Review program will be easily integrated into the established monthly training packet and provide new, relevant and contemporary EMT knowledge and skills. A review of training issues (fire, supervisory and EMS) is part of bi-monthly joint staff meeting. This regular meeting provides a forum for addressing problem or concerns on a timely basis. Real-time feedback from firefighters during the monthly presentation of lessons is encouraged and may provide the most credible evaluation of program goals and effectiveness.

Questionnaire Results: (Appendix A Survey Questionnaire)

After discussing the goals of this research paper with regional base station pre-hospital manager, it was determined that the plan to develop, design and distribute an

EMS training needs questionnaire might serve a dual purpose. Specifically, the information this research paper hoped to gather and review was the same data the regional hospital (Yavapai Regional Medical Center) believed it needed in its application for regional (state) EMS training funding. Modifying the questionnaire to accommodate the hospital's needs expanded the scope, range and depth of the research instrument and broadened the database of information. The distribution of the revised questionnaire worked to the benefit of this research paper in that it added a regional perspective as opposed to a narrower "niche" fire department information pool. While the discussion or detailed review of "total" survey results may not be relevant to this paper, some of the data or "demographic" findings played an important part in preparing the "new" EMT review fire department program. One-hundred and four survey participants included, EMT's, paramedics, RN's, ER Dept. physicians/ technicians and aeromedical personnel. Survey were distributed to three fire departments, one private sector ambulance and the base hospital.

In the interest of saving time, space and complying with confidentially issues, the summarized results from this survey revealed the following. Much like the national average, the ratio of EMT's to paramedics in the region was 4:1. Seventy-four percent of respondents believed that the fire department should provide both EMT and paramedic training and that it should be funded by employer/agencies. Not surprisingly, eighty-six percent of those who responded listed more hands-on skills training as their suggestion for improvement. For ACLS personnel, the training category listed, as a "high" priority was *Airway Management* while EMT's overwhelmingly selected *Trauma Patient Management* followed closely by *self-defense & Protection for EMS Personnel.*

The average age-range of the providers surveyed was twenty-six to twenty-nine with an average of seven to nine years working in the regional as an EMS provider. Those EMT who answered the question revealed they spent $0 - $100.00 of their own money to maintain their certification. (see Appendix A survey questionnaire)

The survey results provided tangible evidence that EMT subject review and skills practice was as important, if not more important, to EMS personnel than paramedic training. Data obtained through this survey instrument provided needed justification for the purchase of EMT reference textbooks placed at individual stations.

DISCUSSION

The findings of this research were generally consistent with the data reviewed in the literature review with one possible exception. EMS personnel training needs seemed to be "regionally personalized". By that I mean, depending on the geographic setting, the mission of the organization and the funding mechanisms that apply, training needs will vary as much as the personalities of those who provide the service. The professional interests of EMS providers ten years ago is not that much different that the interests of providers today. The one issue that survey comments revealed had to do with provider safety from violent or uncooperative patients. The number of EMS provider agencies who are now wearing "bullet proof vests" and other body protection is rapidly increasing.

This study provided an opportunity to up-date an obsolete and neglected segment of a training program in a department that is fasts growing and generally considered very progressive. My involvement was particularly important because my specific participation with EMS is primarily as the ACLS level because I am the

paramedic coordinator for Central Yavapai Fire District. I am however; personally aware of how EMT's are often relegated to a secondary role of importance especially when paramedics are on the scene. My appreciation for the plight of EMT's goes back to my role as an EMT instructor and direct association with EMT to Paramedic upgrade training. I have always maintained that, "for every good paramedic, there is a even a better EMT to back-up and support him/her!" I sincerely believe that they are truly the heroes and the backbone that makes EMS what it is today. Having been certified at the paramedic level for over twenty years I feel I am qualified to say… providing quality, consistent and aggressive Basic Life Support (BLS) training is the single most important investment that emergency service agencies can make. I say this because most departments up-grade their paramedic providers from their in-house pool of EMT's. Most good EMT's become good paramedic, not a surprise. Most poor EMT's turn out to be poor paramedics*,…. "say it with me……increased legal liability!"*

In as much as it sounds like a "cliché", the organizational implications of this research study are simple, "You can pay now, or you can pay later!" More than ever, firefighters come to the fire service prepared, educated and with the expectation that they will continued to be challenged physically, professionally and intellectually. Let's not let them down. We already know that in a twenty-year career the average firefighter is going to immobilize more patients to a spine board than carry victims out of a burning building. The investment a fire department will make today in support their members as basic emergency medical providers will pay dividends beyond any fire chief officer's imagination. The good news is that it doesn't always have to be in the form of pay or benefits. It can be in the form of equipment, training and even more importantly

…recognition. "Tell'em that they're doing a good job!" To most firefighters that means more than money.

RECOMMENDATION

The recommendations proposed as a result of this research are stated to coincide with, and respond to, the problem and purpose statements and the three research questions. As reviewed in the procedures section, the fire department EMT Review program has been implemented through both Central Yavapai Fire District and the city of Prescott Fire Department as of March, 1999. (see example of monthly lessons in Appendix B)

Recommendations:

- Support and continue to fund the in-house EMT Review program as being administered on-duty through the "monthly training packet".
- Monitor the administration and presentation of EMT training material through the respective on-shift battalion chief and instructor feed-back.
- Pursue program certification through the AzDHS
- Continue to adapt and up-date EMT Review training as required for future organizational training needs and goals

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